

Dealership Database

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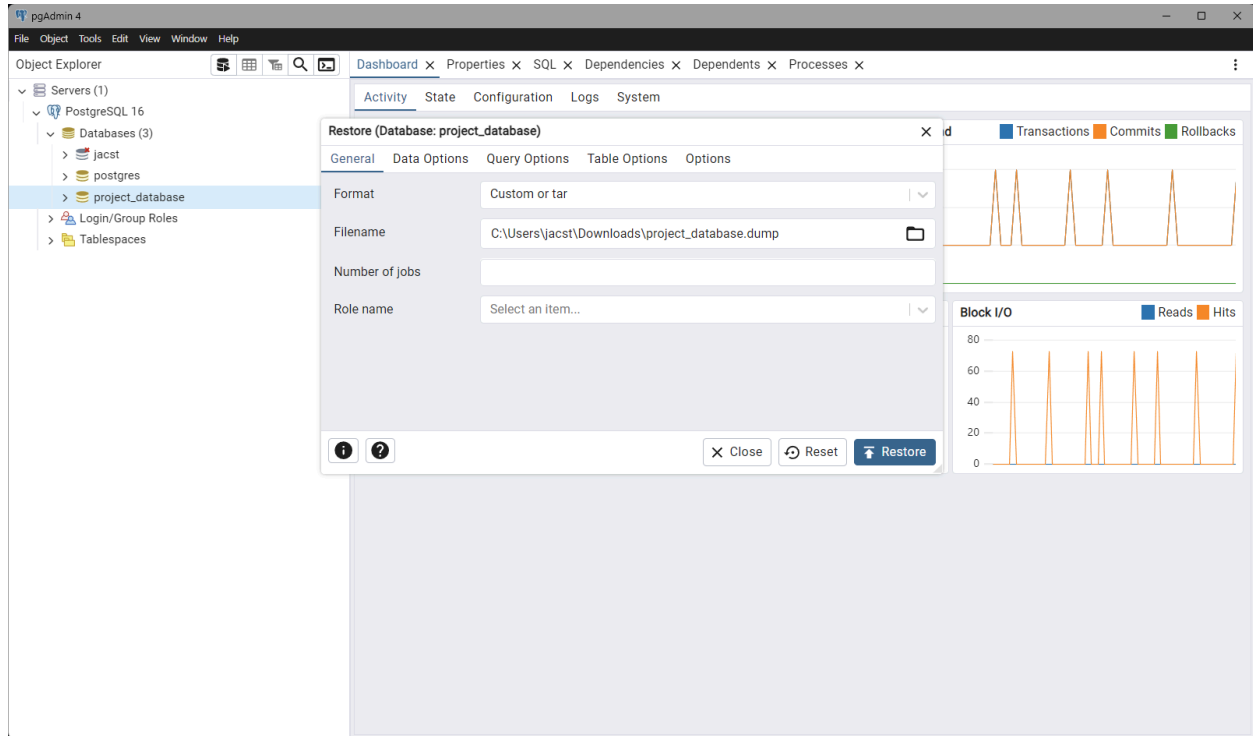
Project Information

The dealership database local application provides a simple, refined application for dealerships to manage inventory, customer information, and sales, as well as analyze sales data for specified time periods.

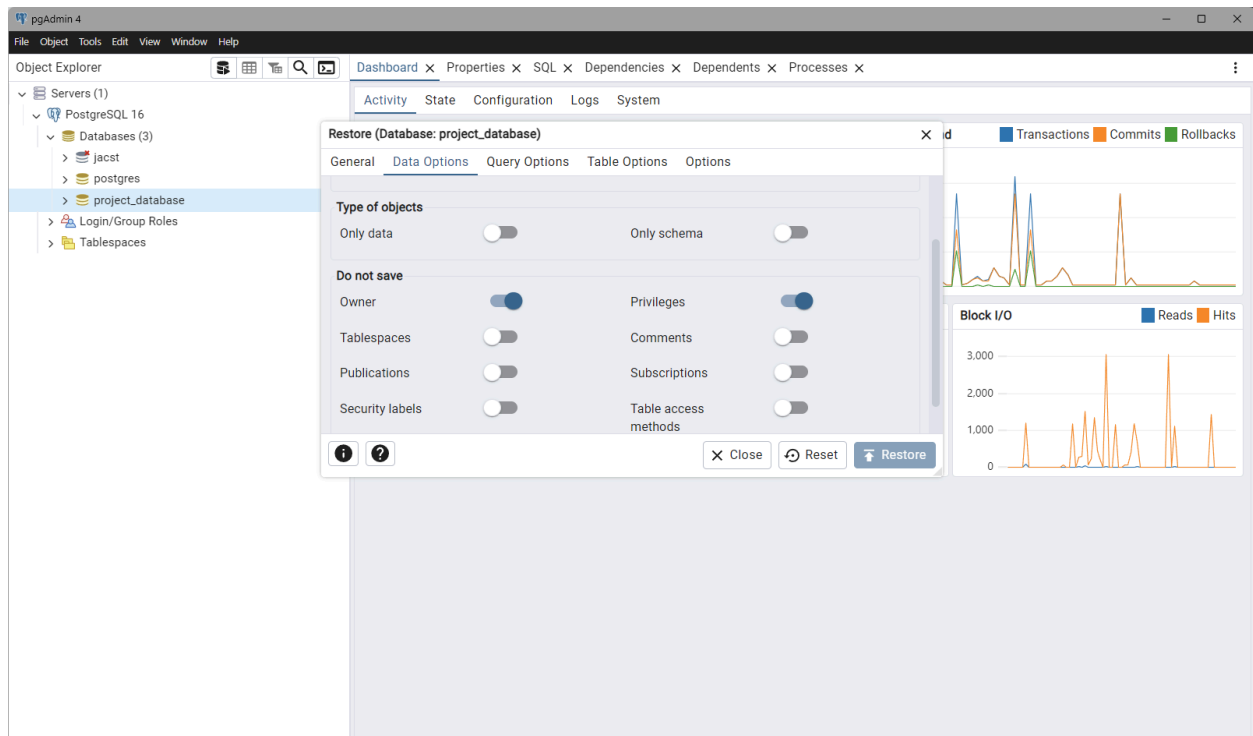
GUI Instruction Video

<https://youtu.be/8FnuodJEWBU>

Database Setup



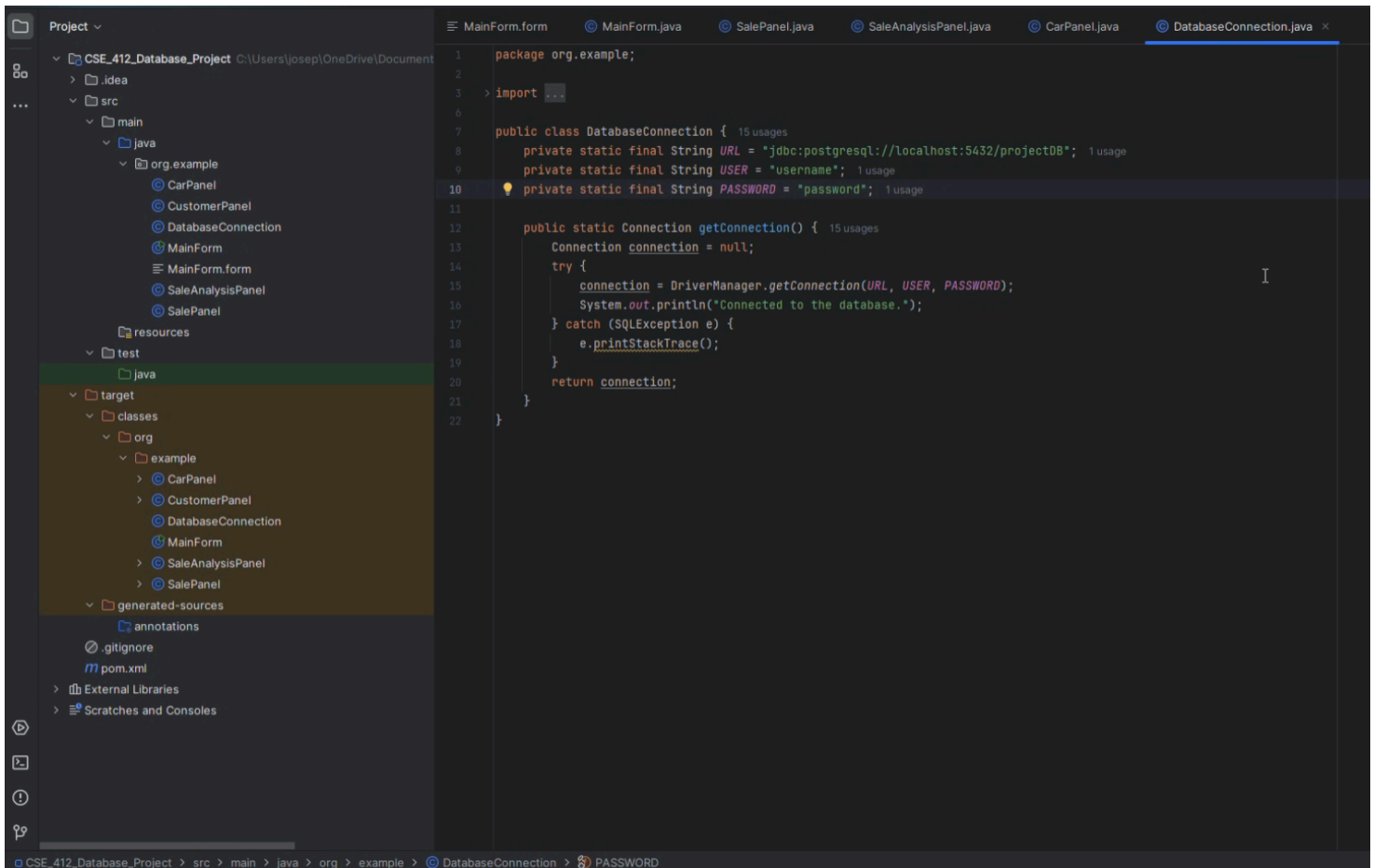
❖ Once a new database is created, use pgAdmin 4 and restore the database using the .dump file.



❖ NOTE: Ensure that the owner and privileges are not saved in the data options tab.

GUI Setup

- ❖ Import the CSE_412_Database_Project into IntelliJ
- ❖ Go to the DatabaseConnection.java file and replace the following:
 - URL = "jdbc:postgresql://HOST_IP:HOST_PORT/DATABASE_NAME"
 - USER = "USERNAME"
 - PASSWORD = "PASSWORD"



- ❖ Once changes have been made, the GUI can be run from MainForm.java

Main GUI: Car/Inventory Information

The screenshot shows a window titled "Database GUI" with four tabs: "Car", "Customer", "Sale", and "Sale Analysis". The "Car" tab is selected. The form contains the following fields and controls:

- VIN (17 characters):** A text input field.
- Make:** A dropdown menu.
- Model:** A dropdown menu.
- Year:** A dropdown menu.
- Price (<=):** A text input field.
- Condition:** A dropdown menu.
- Status:** A dropdown menu.
- Category:** A dropdown menu.

Below the input fields, there are five buttons: "Search Cars", "Delete Cars", "Insert Car", "Modify Car(s)", and "?". At the bottom of the window is a large, empty rectangular area, likely for displaying search results or a list of cars.

- ❖ Search Cars:
 - Optional: Fill in any field(s) to search for cars matching those criteria.
 - Leave all fields empty to view all cars.
- ❖ Delete Cars:
 - Required: Enter the VIN or any other combination of fields to identify cars to delete.
- ❖ Insert Car:
 - Required: Fill in VIN (17 characters), Make, Model, Year, Price, Condition, Status, and Category.
 - The VIN should be unique for each car.
- ❖ Modify Car(s):
 - Required: Enter the VIN to identify the car you want to modify.
 - Optional: Fill in any additional fields to update those attributes for the car.
 - Note: VIN alone will not trigger a modification; at least one additional field must be filled.
- ❖ Tips:
 - Make sure fields are filled out according to the above guidelines to avoid errors.
 - Use the dropdown menus where available to avoid typos.

Main GUI: Customer Information

Database GUI

Car Customer Sale Sale Analysis

Customer ID:

Customer Name:

Contact Number:

Purchases:

Search Customers Delete Customers Insert Customer Modify Customer ?

- ❖ Search Customers:
 - Optional: Fill in any field(s) to search for customers matching those criteria.
 - Leave all fields empty to view all customers.
- ❖ Delete Customers:
 - Required: Enter Customer ID or any other combination of fields to identify customers to delete.
- ❖ Insert Customer:
 - Required: Fill in Customer Name, Contact Number (10-digit), and Purchases (positive integer).
 - Do NOT fill in Customer ID, as it will be generated automatically.
- ❖ Modify Customer:
 - Required: Enter Customer ID to identify the customer for modification.
 - Optional: Fill in any additional fields you want to update.
 - Note: Customer ID alone will not trigger a modification; at least one additional field must be filled.
- ❖ Tips:
 - Use proper input format for each field (e.g., 10-digit contact number).
 - Ensure that fields are filled correctly based on the selected action.

Main GUI: Sale Information

The screenshot shows a window titled "Database GUI" with four tabs: "Car", "Customer", "Sale", and "Sale Analysis". The "Sale" tab is selected. It contains the following fields and controls:

- Sale ID:** A text input field.
- VIN:** A text input field.
- Customer ID:** A text input field.
- Date (YYYY-MM-DD):** A text input field.
- Condition:** A dropdown menu.

Below the input fields is a row of five buttons: "Search Sales", "Delete Sales", "Insert Sale", "Modify Sale", and a button with a question mark "?". At the bottom of the window is a large, empty rectangular area.

- ❖ **Search Sales:**
 - Optional: Fill in any field(s) to search for specific sales records.
 - Leave all fields empty to view all sales.
- ❖ **Delete Sales:**
 - Required: Provide Sale ID or a combination of fields to identify records for deletion.
- ❖ **Insert Sale:**
 - Required: VIN (17 characters), Customer ID (positive integer), and Date (format: YYYY-MM-DD).
 - Condition is automatically set based on the car's current condition.
 - Do NOT fill in the Sale ID, as it will be generated automatically.
- ❖ **Modify Sale:**
 - Required: Sale ID to identify the sale record.
 - Optional: Provide VIN, Customer ID, Date, or Condition to modify respective fields.
 - Note: At least one additional field besides Sale ID must be filled to make modifications.
- ❖ **Tips:**
 - Ensure the VIN is exactly 17 characters for accurate entries.
 - Use the specified date format (YYYY-MM-DD) for date entries.

Main GUI: Sale Analysis

Database GUI

Car Customer Sale **Sale Analysis**

Analysis ID:

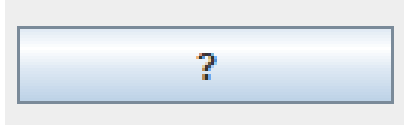
Period Start (YYYY-MM-DD):

Period End (YYYY-MM-DD):

Search Analysis Delete Analysis Insert Analysis ?

- ❖ Search Analysis:
 - Optional: Fill in any field(s) to search for specific analysis records.
 - Leave all fields empty to view all analysis entries.
- ❖ Delete Analysis:
 - Required: Provide Analysis ID or specify Period Start and/or Period End to identify records for deletion.
 - NOTE: There is no modify button as this information is calculated based on other information in the database.
- ❖ Insert Analysis:
 - Required: Period Start and Period End in YYYY-MM-DD format.
 - Analysis ID will be auto-generated.
 - Average sale price and condition, as well as the number of sales within the specified period, will be calculated and stored.
- ❖ Tips:
 - Use the YYYY-MM-DD format for all date fields.
- ❖ Note: Average Sale Condition is a number between 1 and 5 (5 correlating to new condition)

Extra GUI



- ❖ Help Button
 - The “ ? ” Button is a help button customized for each page of the database application.
 - For quick access to basic manual information, click this button.